GenCore version 4.5

OM protein - protein search, using sw model

Run on: March 1, 2001, 16:10:11 ; Search time 64.32 Seconds
(without alignments)
14.354 Million cell updates/sec

Title: US-09-331-631A-31
Perfect score: 75
Sequence: 1 CXXCXXXCXXXXXXXXXXCXXXCXXXC 27

Scoring table: BLOSUM62DX
Gapop 10.0 , Gapext 0.5

Searched: 268485 seqs, 34193795 residues

Total number of hits satisfying chosen parameters: 268485

Minimum DB seq length: 0
Maximum DB seq length: 2000000000

Post-processing: Minimum Match 0%
Maximum Match 100%
Listing first 45 summaries

Database : A_Geneseq_36:*
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2: /SIDS1/gcgdata/geneseq/geneseqp/AA1981.DAT:*
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13: /SIDS1/gcgdata/geneseq/geneseqp/AA1992.DAT:*
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20: /SIDS1/gcgdata/geneseq/geneseqp/AA1999.DAT:*
21: /SIDS1/gcgdata/geneseq/geneseqp/AA2000.DAT:*

Pred. No. is the number of results predicted by chance to have a score greater than or equal to the score of the result being printed, and is derived by analysis of the total score distribution.

SUMMARIES

Result No.	Score	% Query Match	Length	DB	ID	Description
1	75	100.0	169	20	Y60558	Human normal bladd
2	75	100.0	233	21	Y74791	Neisseria meningit
3	66	88.0	31	21	Y70731	Wnt antagonist pro
4	66	88.0	36	4	P30262	Sequence of peptid
5	66	88.0	36	4	P30263	Sequence of peptid
6	66	88.0	44	17	R98208	Nucleotide used in
7	66	88.0	60	14	R40209	Sequence of human
8	66	88.0	60	21	Y82332	Human metallothion
9	66	88.0	61	19	W61601	Human metallothion
10	66	88.0	61	21	Y82331	Human metallothion
11	66	88.0	61	21	Y57822	Rabbit liver metal
12	66	88.0	62	21	Y57810	Human metallothion
13	66	88.0	63	21	Y57811	Chicken metallothi
14	66	88.0	68	12	R14774	Brain-derived grow
15	66	88.0	68	13	R25720	Nerve nutrient act
16	66	88.0	68	15	R53383	Polypeptide having
17	66	88.0	103	20	Y37949	Chlamydia trachoma
18	66	88.0	109	17	R84086	T-lymphocyte stimu
19	66	88.0	124	21	Y82334	Metallothionein ve
20	66	88.0	132	21	Y73470	Human secreted pro
21	66	88.0	219	18	W31759	A novel human h4-1
22	66	88.0	219	20	W92523	Human h4-1BBSV rec
23	66	88.0	219	20	W92524	Human h4-1BBSV rec
24	66	88.0	250	21	Y82335	Metallothionein ve
25	66	88.0	254	19	W64209	Oleosin-metallothi
26	66	88.0	255	16	R74087	Human receptor ind
27	66	88.0	255	16	R70977	H4-1BB receptor pr
28	66	88.0	255	16	R64197	Human 4-1BB polype
29	66	88.0	255	17	W04174	Human receptor H4-
30	66	88.0	255	18	W26658	Human 4-1BB recept
31	66	88.0	255	20	Y33214	Human CD137 protei
32	66	88.0	255	20	Y28688	Human receptor pro
33	66	88.0	392	20	Y35515	Chlamydia pneumoni
34	66	88.0	680	14	R34445	Sequence encoded b
35	66	88.0	680	19	W49015	Human KAL protein.
36	66	88.0	1040	20	W73584	RAG-1 protein. Mu
37	66	88.0	1214	21	Y79152	Mouse protein kina
38	65	86.7	57	21	Y57813	Crab metallothione
39	64.5	86.0	246	19	W53007	Mus musculus I-mfa
40	64.5	86.0	430	20	Y31745	Mycobacterium tube
41	64	85.3	66	21	Y64780	Human 5' EST relat
42	64	85.3	625	19	W62830	Macadamia integrif
43	64	85.3	666	19	W62828	Macadamia integrif
44	64	85.3	666	19	W62829	Macadamia integrif
45	63	84.0	690	19	W77414	Human sodium depen

ALIGNMENTS

RESULT 1
Y60558
ID Y60558 standard; Protein; 169 AA.
XX
AC Y60558;
XX
DT 31-JAN-2000 (first entry)
XX
DE Human normal bladder tissue EST encoded protein 230.
XX
KW Human; bladder; treatment; EST; expressed sequence tag; cytostatic;
KW cancer; gene therapy.
XX
OS Homo sapiens.
XX
PN DE19818620-A1.
XX
PD 28-OCT-1999.
XX
PF 21-APR-1998; 98DE-1018620.
XX
PR 21-APR-1998; 98DE-1018620.
XX
PA (META-) METAGEN GES GENOMFORSCHUNG MBH.
XX
PI Rosenthal A, Specht T, Hinzmann B, Schmitt A, Pilarsky C, Dahl E;
XX
DR WPI; 1999-602416/52.
DR N-PSDB; Z42235.
XX
PT New polypeptides and their nucleic acids, useful for treatment of
PT bladder tumour and identification of therapeutic agents -
XX
PS Claim 23; Page 338; 366pp; German.
XX

```
CC   This invention describes novel polypeptide fragment sequences (I) and
CC   their encoding nucleic acids (II) which are highly expressed in normal
CC   bladder tissue and have cytostatic activity. (II) are used for
CC   recombinant expression of (I) and to isolate complete genes. (I) are
CC   used to identify agents suitable for the treatment of bladder tumours, to
CC   directly treat this form of cancer (including expression from gene
CC   therapy vectors), or are used in a preparation for cancer treatment. (I)
CC   is also used for the generation of specific antibodies. (II) are
CC   identified by assembling ESTs (expressed sequence tags) from a particular
CC   tissue type before comparison of expression patterns. This allows a
CC   significantly longer fragment of the gene to be revealed, and therefore
CC   reduces the number of failures because of ESTs from different libraries
CC   representing different parts of the same unknown gene distorting the
CC   estimated frequency of occurrence in a particular tissue. Y60329-Y60591
CC   represent protein fragments encoded by the human normal bladder tissue
CC   cDNA library derived EST fragments represented in Z42122-Z42248.
XX
SQ   Sequence   169 AA;


  Query Match             100.0%;  Score 75;  DB 20;  Length 169;
  Best Local Similarity   22.2%;  Pred. No. 38;
  Matches    6;  Conservative   21;  Mismatches    0;  Indels    0;  Gaps    0;

Qy       1 CXXCXXXCXXXXXXXXXXCXXXCXXXC 27
           |::|:::|::::::::::|:::|:::|
Db      89 ccccncccwsccccncwsccccwscc 115


RESULT   2
Y74791
ID   Y74791 standard; Protein; 233 AA.
XX
AC   Y74791;
XX
DT   21-MAR-2000  (first entry)
XX
DE   Neisseria meningitidis ORF 263 protein sequence SEQ ID NO:1056.
XX
KW   Neisseria meningitidis; Neisseria gonorrheae; antigen; vaccine;
KW   antigenic; diagnosis; immunogenic; infection; meningitis; septicaemia;
KW   antibacterial; gene therapy.
XX
OS   Neisseria meningitidis.
XX
PN   WO9957280-A2.
XX
PD   11-NOV-1999.
XX
PF   30-APR-1999;   99WO-US09346.
XX
PR   01-MAY-1998;   98US-0083758.
PR   31-JUL-1998;   98US-0094869.
PR   02-SEP-1998;   98US-0098994.
PR   02-SEP-1998;   98US-0099062.
PR   09-OCT-1998;   98US-0103749.
PR   09-OCT-1998;   98US-0103794.
PR   09-OCT-1998;   98US-0103796.
PR   25-FEB-1999;   99US-0121528.
XX
PA   (CHIR ) CHIRON CORP.
PA   (GENO-) INST GENOMIC RES.
XX
PI   Fraser C,  Galeotti C,  Grandi G,  Hickey E,  Masignani V,  Mora M;
PI   Petersen J,  Pizza M,  Rappuoli R,  Ratti G,  Scalato E,  Scarselli M;
PI   Tettelin H,  Venter JC;
XX
DR   WPI; 2000-062150/05.
DR   N-PSDB; Z53553.
XX
PT   Novel Neisserial polypeptides predicted to be useful antigens for
PT   vaccines and diagnostics  -
XX
PS   Claim 2; Page 606; 1453pp; English.
XX
CC   Z53015 to Z54536, Z54577 to Z54615, and Y74253 to Y75941 represent
CC   novel Neisseria meningitis and N. gonorrheae polynucleotides and
CC   polypeptides. Z54537 to Z54576 and Z54616 to Z55473 represent PCR
CC   primers used in the exemplification of the present invention. The
CC   polypeptides, the polynucleotides, antibodies and compositions of
CC   the invention can be used as vaccines, as diagnostic reagents, and as
CC   immunogenic compositions. The polypeptides can be used in the
CC   manufacture of medicaments for treating or preventing infection due to
CC   Neisserial bacteria (e.g. meningitis and septicaemia), to detect the
CC   presence of Neisseria bacteria, or to raise antibodies. They may also
CC   be used to screen for agonists or antagonists, which may themselves
CC   have use as antibacterial agents. The polynucleotides of the invention
CC   may also be used in gene therapy protocols.
XX
SQ   Sequence   233 AA;


  Query Match             100.0%;  Score 75;  DB 21;  Length 233;
  Best Local Similarity   22.2%;  Pred. No. 52;
  Matches    6;  Conservative   21;  Mismatches    0;  Indels    0;  Gaps    0;

Qy       1 CXXCXXXCXXXXXXXXXXCXXXCXXXC 27
           |::|:::|::::::::::|:::|:::|
Db      30 cggcgcgctcgccgccttcacccaagc 56


RESULT   3
Y70731
ID   Y70731 standard; protein; 31 AA.
XX
AC   Y70731;
XX
DT   24-JUL-2000  (first entry)
XX
DE   Wnt antagonist protein consensus sequence-1.
XX
KW   Wnt antagonist; contraceptive; contraceptive vaccine; oocyte development;
KW   female primate contraception; oocyte viability.
XX
OS   Synthetic.
XX
FH   Key             Location/Qualifiers
FT   Misc-difference 2
FT                   /label= Unknown
FT                   /note= "Xaa may be 9 amino acids in length; some
FT                   amino acids may be absent"
FT   Misc-difference 4
FT                   /label= Unknown
FT                   /note= "Xaa may be 42 amino acids in length; some
FT                   amino acids may be absent"
FT   Misc-difference 14
FT                   /label= Unknown
FT   Misc-difference 15
FT                   /label= Unknown
FT   Misc-difference 16
FT                   /label= Unknown
FT   Misc-difference 17
FT                   /label= Unknown
FT   Misc-difference 18
FT                   /label= Unknown
FT   Misc-difference 19
FT                   /label= Unknown
FT   Misc-difference 21
FT                   /label= Unknown
FT                   /note= "Xaa may be 10 amino acids in length; some
FT                   amino acids may be absent"
FT   Misc-difference 23
FT                   /label= Unknown
FT   Misc-difference 24
FT                   /label= Unknown
FT   Misc-difference 25
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FT                  /label= Unknown
FT   Misc-difference 27
FT                  /label= Unknown
FT                  /note= "Xaa may be 7 amino acids in length; some
FT                  amino acids may be absent"
FT   Misc-difference 29
FT                  /label= Unknown
FT                  /note= "Xaa may be 27 amino acids in length; some
FT                  amino acids may be absent"
FT   Misc-difference 31
FT                  /label= Unknown
FT                  /note= "Xaa may be 13 amino acids in length; some
FT                  amino acids may be absent"
XX
PN   WO200021555-A1.
XX
PD   20-APR-2000.
XX
PF   13-OCT-1999;   99WO-US23640.
XX
PR   15-OCT-1998;   98US-0104355.
XX
PA   (HARD ) HARVARD COLLEGE.
XX
PI   Mcmahon AP,  Parr BA,  Vaino S;
XX
DR   WPI; 2000-317845/27.
XX
PT   Contraceptive composition for inhibiting oocyte development in a female
PT   primate comprises a Wnt polypeptide antagonist  -
XX
PS   Claim 12; Page 44; 57pp; English.
XX
CC   The patent discloses a method of female primate contraception comprising
CC   administering an antagonist of a Wnt polypeptide, inhibiting oocyte
CC   development. Wnt polypeptides are useful for promotive maturation of an
CC   immature oocyte. Wnt polypeptides are also useful for increasing the
CC   number of mature oocytes and to enhance oocyte viability. The present
CC   peptide is a consensus sequence of Wnt antagonist which inhibits the
CC   physiological activity of a Wnt polypeptide. Antagonistic polypeptides
CC   may contain a cysteine-rich domain.
XX
SQ   Sequence   31 AA;


  Query Match             88.0%;  Score 66;  DB 21;  Length 31;
  Best Local Similarity   65.4%;  Pred. No. 38;
  Matches   17;  Conservative    9;  Mismatches    0;  Indels    0;  Gaps    0;

Qy      2 XXCXXXCXXXXXXXXXXCXXXCXXXC 27
          ::|:::|::|||||||:|||||||:||
Db      5 ccccccccccxxxxxcxcxxxcxcxc 30


RESULT   4
P30262
ID   P30262 standard; peptide; 36 AA.
XX
AC   P30262;
XX
DT   25-APR-1992  (first entry)
XX
DE   Sequence of peptide used to vaccinate against E. coli enterotoxin(s).
XX
KW   Vaccine; enterotoxin; diaorrhoea; immunogen.
XX
OS   Escherichia coli.
XX
FH   Key             Location/Qualifiers
FT   Misc-difference 1..18
FT                  /label= Peptide P
XX
PN   EP93652-A.
XX
PD   09-NOV-1983.
XX
PF   26-APR-1983;   83EP-0072336.
XX
PR   26-APR-1982;   82FR-0007179.
XX
PA   (INSP ) INST PASTEUR.
PA   (CNRS ) CENT NAT RECH SCI.
XX
PI   Tartar A,  Duflot E,  Boquet P;
XX
DR   WPI; 1983-816301/46.
XX
PT   Peptide(s) used to vaccinate against E. coli enterotoxin(s) -
PT   contg. e.g. asparagine threonine phenylalanine tyrosine cysteine
PT   cysteine glutamic acid leucine cysteine cysteine asparagine
PT   sequences
XX
PS   Claim 1; Page 40; 50pp; French.
XX
CC   The inventors claim peptides of formula (P)n (see FT; see also
CC   P30263) having 4n-18n amino acids and pref. being laevorotatory
CC   (where n is 1 or 2).  In P30262 and P30263, N=2.  When n is 2, the
CC   peptide comprises two peptide sequences P, which may be the same or
CC   different, each having 4-18 amino acids chosen from the peptide P SQ
CC   in P30262 or P30263.  The two P sequences may be joined (a) by a
CC   disulphide bond or (b) by a bond formed between a carboxyl gp. of
CC   one sequence of an amino gp. of the other.
XX
SQ   Sequence   36 AA;


  Query Match             88.0%;  Score 66;  DB 4;  Length 36;
  Best Local Similarity   18.5%;  Pred. No. 43;
  Matches    5;  Conservative   21;  Mismatches    1;  Indels    0;  Gaps    0;

Qy      1 CXXCXXXCXXXXXXXXXXCXXXCXXXC 27
          |::|::: :::::::::::|:::|:::|
Db      6 celccnpacagcyntfyccelccnpac 32


RESULT   5
P30263
ID   P30263 standard; peptide; 36 AA.
XX
AC   P30263;
XX
DT   25-APR-1992  (first entry)
XX
DE   Sequence of peptide used to vaccinate against E. coli enterotoxin(s).
XX
KW   Vaccine; enterotoxin; diaorrhoea; immunogen.
XX
OS   Escherichia coli.
XX
FH   Key             Location/Qualifiers
FT   Misc-difference 1..18
FT                  /label= Peptide P
XX
PN   EP93652-A.
XX
PD   09-NOV-1983.
XX
PF   26-APR-1983;   83EP-0072336.
XX
PR   26-APR-1982;   82FR-0007179.
XX
PA   (INSP ) INST PASTEUR.
PA   (CNRS ) CENT NAT RECH SCI.
XX
PI   Tartar A,  Duflot E,  Boquet P;
XX
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```
DR   WPI; 1983-816301/46.
XX
PT   Peptide(s) used to vaccinate against E. coli enterotoxin(s) -
PT   contg. e.g. asparagine threonine phenylalanine tyrosine cysteine
PT   cysteine glutamic acid leucine cysteine cysteine asparagine
PT   sequences
XX
PS   Claim 1; Page 40; 50pp; French.
XX
CC   The inventors claim peptides of formula (P)n (see FT; see also
CC   P30263) having 4n-18n amino acids and pref. being laevorotatory
CC   (where n is 1 or 2).  In P30262 and P30263, N=2.  When n is 2, the
CC   peptide comprises two peptide sequences P, which may be the same or
CC   different, each having 4-18 amino acids chosen from the peptide P SQ
CC   in P30262 or P30263.  The two P sequences may be joined (a) by a
CC   disulphide bond or (b) by a bond formed between a carboxyl gp. of
CC   one sequence of an amino gp. of the other.
XX
SQ   Sequence   36 AA;


  Query Match             88.0%;  Score 66;  DB 4;  Length 36;
  Best Local Similarity   18.5%;  Pred. No. 43;
  Matches    5;  Conservative   21;  Mismatches    1;  Indels    0;  Gaps    0;

Qy      1 CXXCXXXCXXXXXXXXXXCXXXCXXXC 27
          |::|::: ::::::::::|:::|:::|
Db      6 celccypacagcnntfyccelccypac 32


RESULT   6
R98208
ID   R98208 standard; Protein; 44 AA.
XX
AC   R98208;
XX
DT   30-DEC-1996  (first entry)
XX
DE   Nucleotide used in production of MSH/MoMuLV chimeric sequence.
XX
KW   Moloney murine leukaemia virus; gp70; 4070A retrovirus; retrovirus;
KW   10A1 murine leukaemia virus; NZB-9-1 murine leukaemia virus;
KW   polytropic MX27 provirus; targetted drug delivery; gene therapy;
KW   single chain antibody; envelope protein; ss.
XX
OS   Synthetic.
XX
PN   WO9630504-A1.
XX
PD   03-OCT-1996.
XX
PF   22-MAR-1996;   96WO-US03908.
XX
PR   24-MAR-1995;   95US-0409648.
XX
PA   (GENE-) GENETIC THERAPY INC.
PA   (UYSC-) UNIV SOUTHERN CALIFORNIA.
XX
PI   Anderson W,  Chiang YL,  Januszeski M,  Mackrell AJ;
PI   Zhao Y;
XX
DR   WPI; 1996-455352/45.
XX
PT   Cell-targetted retroviral vector particles - having envelope protein
PT   modified with targetting polypeptide
XX
PS   Example 2; Page 36; 73pp; English.
XX
CC   Cell targetted retroviral vector particles can be used in gene
CC   therapy to deliver a heterologous gene to a target cell for
CC   expression of a heterologous polypeptide in that cell. The cell
CC   targetted retroviral vector particles comprise an envelope protein
CC   which is modified to contain a targetting polypeptide (a single chain
CC   antibody), or in the case of moloney murine leukaemia virus
CC   (MoMuLV), alpha melanotropin-stimulating hormone (MSH). Two
CC   oligonucleotides (R98207, R98208) were used to substitute sequences in
CC   MoMuLV for MSH sequences.  This oligonucleotide was used to replace
CC   residues G80-P88 of MoMuLV envelope protein (See WO4248).
XX
SQ   Sequence   44 AA;


  Query Match             88.0%;  Score 66;  DB 17;  Length 44;
  Best Local Similarity   19.2%;  Pred. No. 52;
  Matches    5;  Conservative   21;  Mismatches    0;  Indels    0;  Gaps    0;

Qy      2 XXCXXXCXXXXXXXXXXCXXXCXXXC 27
          ::|:::|:::::::::::|:::|:::|
Db     13 tgcaagccggtattaacctccctcac 38


RESULT   7
R40209
ID   R40209 standard; protein; 60 AA.
XX
AC   R40209;
XX
DT   04-FEB-1994  (first entry)
XX
DE   Sequence of human metallothionine MT-2, class I.
XX
KW   Metallothionine; MT-2; class I.
XX
OS   Homo sapiens.
XX
PN   DE4212134-A.
XX
PD   19-AUG-1993.
XX
PF   10-APR-1992;   92DE-4212134.
XX
PR   17-FEB-1992;   92GB-0003299.
XX
PA   (INDE-) INDENA SPA.
XX
PI   Bombardelli E,  Ponzone C,  Puglisi PP;
XX
DR   WPI; 1993-265710/34.
XX
PT   Topical compsn. for protecting tissue e.g. skin - against toxic
PT   heavy metals, contg. metal-complexing protein with high cysteine
PT   content
XX
PS   Disclosure; Page 3; 7pp; German.
XX
CC   Class I metallothionines are characterised by a high Cys content and
CC   the absence of aromatic AAs; a molecular weight of 6000-7000;
CC   characteristic thio-metal complexes and clusters;
CC   and a high metal content.
XX
SQ   Sequence   60 AA;


  Query Match             88.0%;  Score 66;  DB 14;  Length 60;
  Best Local Similarity   19.2%;  Pred. No. 70;
  Matches    5;  Conservative   21;  Mismatches    0;  Indels    0;  Gaps    0;

Qy      1 CXXCXXXCXXXXXXXXXXCXXXCXXX 26
          |::|:::|::::::::::|:::|:::
Db     25 ctsckkscccscpvgcakcaqgcick 50


RESULT   8
Y82332
ID   Y82332 standard; protein; 60 AA.
XX
```

AC Y82332;
XX
DT 22-JUN-2000 (first entry)
XX
DE Human metallothionein protein SEQ ID NO:2.
XX
KW Human; metallothionein; heavy metal removal.
XX
OS Homo sapiens.
XX
PN JP2000060561-A.
XX
PD 29-FEB-2000.
XX
PF 21-AUG-1998; 98JP-0235879.
XX
PR 21-AUG-1998; 98JP-0235879.
XX
PA (KAGA-) KAGAKU GIJUTSU SHINKO JIGYODAN.
XX
DR WPI; 2000-249676/22.
DR N-PSDB; A08087.
XX
PT New metallothionein polymer used for removal of heavy metals contains
PT metallothioneins connected together by three amino acid residues -
XX
PS Claim 3; Page 8; 19pp; Japanese.
XX
CC The present invention describes a metallothionein polymer in which n
CC metallothioneins are connected together and the C-terminal amino acid
CC residue and the N-terminal amino acid residue of the each adjacent
CC metallothionein are combined by three amino acid residues Xaa. The
CC metallothionein polymer is useful for the removal of heavy metals. The
CC present sequence represents a human metallothionein protein, which is
CC used in the exemplification of the present invention.
XX
SQ Sequence 60 AA;

Query Match 88.0%; Score 66; DB 21; Length 60;
Best Local Similarity 19.2%; Pred. No. 70;
Matches 5; Conservative 21; Mismatches 0; Indels 0; Gaps 0;

```
Qy      1 CXXCXXXCXXXXXXXXXXCXXXCXXX 26
          |::|:::|::::::::::|:::|:::
Db     25 ctsckksccscCpvgcakcaqgcick 50
```

RESULT 9
W61601
ID W61601 standard; Protein; 61 AA.
XX
AC W61601;
XX
DT 27-OCT-1998 (first entry)
XX
DE Human metallothionein HMBP-I.
XX
KW Human; metallothionein; HMBP-1; metal toxicity; immune disorder;
KW inflammatory disease; cancers.
XX
OS Homo sapiens.
XX
FH Key Location/Qualifiers
FT Misc-difference 28
FT /label= Unknown
FT /note= "Encoded by TYC"
XX
PN WO9831795-A2.
XX
PD 23-JUL-1998.
XX
PF 30-DEC-1997; 97WO-US24129.
XX
PR 17-JAN-1997; 97US-0785530.
XX
PA (INCY-) INCYTE PHARM INC.
XX
PI Goli SK, Hillman JL;
XX
DR WPI; 1998-414095/35.
DR N-PSDB; V45334.
XX
PT Human metallothionein, HMBP-I - used to develop products for
PT diagnosis, prevention and treatment of heavy metal toxicity, cancer,
PT inflammatory disease and immune disorders
XX
PS Claim 1; Fig 1; 53pp; English.
XX
CC The human metallothionein HMBP-1 (heavy metal binding protein),
CC polypeptides can be used to treat heavy metal toxicity, e.g. myopathy,
CC encephalopathy, renal nephropathy or necrosis, liver necrosis or
CC cirrhosis, anaemia, myocardial damage, and pneumonitis or any other
CC condition or disease caused by exposure to heavy metals. They can also
CC be used to treat immune disorders e.g. bronchial asthma, chronic
CC obstructive pulmonary disease, pneumonia, multiple sclerosis, rheumatoid
CC arthritis, inflammatory bowel disease, chronic hepatitis, cerebral
CC oedema, or inflammatory disease or cancers.
XX
SQ Sequence 61 AA;

Query Match 88.0%; Score 66; DB 19; Length 61;
Best Local Similarity 23.1%; Pred. No. 71;
Matches 6; Conservative 20; Mismatches 0; Indels 0; Gaps 0;

```
Qy      1 CXXCXXXCXXXXXXXXXXCXXXCXXX 26
          |:||:::|::::::::::|:::|:::
Db     26 ctxckksccscCpvgcakcahgcvck 51
```

RESULT 10
Y82331
ID Y82331 standard; protein; 61 AA.
XX
AC Y82331;
XX
DT 22-JUN-2000 (first entry)
XX
DE Human metallothionein protein SEQ ID NO:1.
XX
KW Human; metallothionein; heavy metal removal.
XX
OS Homo sapiens.
XX
PN JP2000060561-A.
XX
PD 29-FEB-2000.
XX
PF 21-AUG-1998; 98JP-0235879.
XX
PR 21-AUG-1998; 98JP-0235879.
XX
PA (KAGA-) KAGAKU GIJUTSU SHINKO JIGYODAN.
XX
DR WPI; 2000-249676/22.
DR N-PSDB; A08087.
XX
PT New metallothionein polymer used for removal of heavy metals contains
PT metallothioneins connected together by three amino acid residues -
XX
PS Claim 3; Page 8; 19pp; Japanese.
XX
CC The present invention describes a metallothionein polymer in which n
CC metallothioneins are connected together and the C-terminal amino acid
CC residue and the N-terminal amino acid residue of the each adjacent

```
CC   metallothionein are combined by three amino acid residues Xaa. The
CC   metallothionein polymer is useful for the removal of heavy metals. The
CC   present sequence represents a human metallothionein protein, which is
CC   used in the exemplification of the present invention.
XX
SQ   Sequence   61 AA;


  Query Match            88.0%;  Score 66;  DB 21;  Length 61;
  Best Local Similarity   19.2%;  Pred. No. 71;
  Matches    5;  Conservative   21;  Mismatches    0;  Indels    0;  Gaps    0;

Qy      1 CXXCXXXCXXXXXXXXXXCXXXCXXX 26
          |::|:::|:::::::::::|:::|:::
Db     26 ctsckksccscccpvgcakcaqgcick 51


RESULT  11
Y57822
ID   Y57822 standard; protein; 61 AA.
XX
AC   Y57822;
XX
DT   22-MAR-2000  (first entry)
XX
DE   Rabbit liver metallothionein Class II amino acid sequence.
XX
KW   Metallothionein; metal recovery; remediation; heavy metal;
KW   precious metal; phytochelatin; green algae; Chlamydomonas reinhardtii.
XX
OS   Oryctolagus cuniculus.
XX
PN   WO9960838-A1.
XX
PD   02-DEC-1999.
XX
PF   28-MAY-1999;   99WO-US12007.
XX
PR   28-MAY-1998;   98US-0087374.
XX
PA   (OHIS ) UNIV OHIO STATE RES FOUND.
XX
PI   Sayre RT,  Traina SJ;
XX
DR   WPI; 2000-086646/07.
XX
PT   Novel method for metal recovery, remediation and separation  -
XX
PS   Disclosure; Fig 1; 86pp; English.
XX
CC   The present invention describes a transgenic algal cell (I) of the
CC   genus Chlamydomonas comprising reproductive genetic material comprising
CC   a nucleotide sequence capable of expressing chicken type I
CC   Metallothionein. Also described is a method of removing metal from
CC   an aqueous medium containing at least one dissolved or suspended
CC   metal. The transgenic algae are used for the selective separation of
CC   metals, particularly the separation of precious and desirable metals
CC   such as gold and uranium, from other metals such as cadmium, zinc and
CC   copper. The method can be used to facilitate the selective recovery of
CC   precious and rare metals from mineral sources where aqueous media can
CC   be used, such as in natural surface water flows, ground water and where
CC   water may be introduced. The method is suitable for well-drilling,
CC   soil and water remediation arts, mining fields, and industrial
CC   engineering. The present sequence represents a Class II metallothionein
CC   given in the present invention.
XX
SQ   Sequence   61 AA;


  Query Match            88.0%;  Score 66;  DB 21;  Length 61;
  Best Local Similarity   19.2%;  Pred. No. 71;
  Matches    5;  Conservative   21;  Mismatches    0;  Indels    0;  Gaps    0;

Qy      1 CXXCXXXCXXXXXXXXXXCXXXCXXX 26
          |::|:::|:::::::::::|:::|:::
Db     26 ctsckksccscccpvgcakcaqgcick 51


RESULT  12
Y57810
ID   Y57810 standard; protein; 62 AA.
XX
AC   Y57810;
XX
DT   22-MAR-2000  (first entry)
XX
DE   Human metallothionein Class I amino acid sequence.
XX
KW   Metallothionein; metal recovery; remediation; heavy metal;
KW   precious metal; phytochelatin; green algae; Chlamydomonas reinhardtii.
XX
OS   Homo sapiens.
XX
PN   WO9960838-A1.
XX
PD   02-DEC-1999.
XX
PF   28-MAY-1999;   99WO-US12007.
XX
PR   28-MAY-1998;   98US-0087374.
XX
PA   (OHIS ) UNIV OHIO STATE RES FOUND.
XX
PI   Sayre RT,  Traina SJ;
XX
DR   WPI; 2000-086646/07.
XX
PT   Novel method for metal recovery, remediation and separation  -
XX
PS   Disclosure; Page 6; 86pp; English.
XX
CC   The present invention describes a transgenic algal cell (I) of the
CC   genus Chlamydomonas comprising reproductive genetic material comprising
CC   a nucleotide sequence capable of expressing chicken type I
CC   Metallothionein. Also described is a method of removing metal from
CC   an aqueous medium containing at least one dissolved or suspended
CC   metal. The transgenic algae are used for the selective separation of
CC   metals, particularly the separation of precious and desirable metals
CC   such as gold and uranium, from other metals such as cadmium, zinc and
CC   copper. The method can be used to facilitate the selective recovery of
CC   precious and rare metals from mineral sources where aqueous media can
CC   be used, such as in natural surface water flows, ground water and where
CC   water may be introduced. The method is suitable for well-drilling,
CC   soil and water remediation arts, mining fields, and industrial
CC   engineering. The present sequence represents a Class I metallothionein
CC   given in the present invention.
XX
SQ   Sequence   62 AA;


  Query Match            88.0%;  Score 66;  DB 21;  Length 62;
  Best Local Similarity   19.2%;  Pred. No. 73;
  Matches    5;  Conservative   21;  Mismatches    0;  Indels    0;  Gaps    0;

Qy      2 XXCXXXCXXXXXXXXXXCXXXCXXXC 27
          ::|:::|:::::::::::|:::|:::|
Db     13 ctcagsckckectkctsckksccscc 38


RESULT  13
Y57811
ID   Y57811 standard; protein; 63 AA.
XX
AC   Y57811;
XX
DT   22-MAR-2000  (first entry)
```

XX
DE Chicken metallothionein Class I amino acid sequence.
XX
KW Metallothionein; metal recovery; remediation; heavy metal;
KW precious metal; phytochelatin; green algae; Chlamydomonas reinhardtii.
XX
OS Gallus gallus.
XX
PN WO9960838-A1.
XX
PD 02-DEC-1999.
XX
PF 28-MAY-1999; 99WO-US12007.
XX
PR 28-MAY-1998; 98US-0087374.
XX
PA (OHIS) UNIV OHIO STATE RES FOUND.
XX
PI Sayre RT, Traina SJ;
XX
DR WPI; 2000-086646/07.
XX
PT Novel method for metal recovery, remediation and separation -
XX
PS Disclosure; Page 6; 86pp; English.
XX
CC The present invention describes a transgenic algal cell (I) of the
CC genus Chlamydomonas comprising reproductive genetic material comprising
CC a nucleotide sequence capable of expressing chicken type I
CC Metallothionein. Also described is a method of removing metal from
CC an aqueous medium containing at least one dissolved or suspended
CC metal. The transgenic algae are used for the selective separation of
CC metals, particularly the separation of precious and desirable metals
CC such as gold and uranium, from other metals such as cadmium, zinc and
CC copper. The method can be used to facilitate the selective recovery of
CC precious and rare metals from mineral sources where aqueous media can
CC be used, such as in natural surface water flows, ground water and where
CC water may be introduced. The method is suitable for well-drilling,
CC soil and water remediation arts, mining fields, and industrial
CC engineering. The present sequence represents a Class I metallothionein
CC given in the present invention.
XX
SQ Sequence 63 AA;

Query Match 88.0%; Score 66; DB 21; Length 63;
Best Local Similarity 19.2%; Pred. No. 74;
Matches 5; Conservative 21; Mismatches 0; Indels 0; Gaps 0;

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Qy      1 CXXCXXXCXXXXXXXXXXCXXXCXXX 26
          |::|:::|:::::::::::|:::|:::
Db     27 crscrksccscccpagcnncakgcvck 52
```

RESULT 14
R14774
ID R14774 standard; Protein; 68 AA.
XX
AC R14774;
XX
DT 13-FEB-1992 (first entry)
XX
DE Brain-derived growth inhibitory factor.
XX
KW Human; neurotrphic activity; Alzheimer,s disease; senile dementia.
XX
OS Homo sapiens.
XX
FH Key Location/Qualifiers
FT CDS 1..204
FT /*tag= a
XX
PN EP458673-A.
XX
PD 27-NOV-1991.
XX
PF 07-MAY-1991; 91EP-0401221.
XX
PR 13-DEC-1990; 90JP-0410165.
PR 09-MAY-1990; 90JP-0119620.
PR 13-DEC-1990; 90JP-0410164.
XX
PA (TSUJ/) TSUJI S.
XX
PI Tsuji S, Miyatake T, Uchida Y, Ihara Y;
XX
DR WPI; 1991-348330/48.
DR N-PSDB; Q14778.
XX
PT New growth-inhibitor factor extracted from human brain - has
PT neurotrophic activity and is useful for diagnosing, preventing
PT and treating Alzheimer's disease.
XX
PS Claim 6; Page 7; 15pp; English.
XX
CC The sequence was deduced from a clone isolated from a cDNA library
CC prepd. from RNA extracted from human brain, and also sequenced
CC using a protein sequencer from protein purified from human cerebral
CC cortex tissue. The protein has a mol. wt. of 5,000 (SDS PAGE) and
CC has growth inhibiting activity in humans. .It is not found in the
CC brains of patients with Alzheimer,s disease and may be useful for
CC the treatment or prophylaxis of this disease.
XX
SQ Sequence 68 AA;

Query Match 88.0%; Score 66; DB 12; Length 68;
Best Local Similarity 19.2%; Pred. No. 79;
Matches 5; Conservative 21; Mismatches 0; Indels 0; Gaps 0;

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Qy      1 CXXCXXXCXXXXXXXXXXCXXXCXXX 26
          |::|:::|:::::::::::|:::|:::
Db     27 ctsckksccscccpaecekcakdcvck 52
```

RESULT 15
R25720
ID R25720 standard; Protein; 68 AA.
XX
AC R25720;
XX
DT 18-JAN-1993 (first entry)
XX
DE Nerve nutrient activity inhibiting peptide.
XX
KW Cerebral protein; pH range; Alzheimers disease.
XX
OS Synthetic.
XX
PN JP04169600-A.
XX
PD 17-JUN-1992.
XX
PF 13-DEC-1990; 90JP-0410164.
XX
PR 19-OCT-1990; 90JP-0279371.
XX
PA (UCHI/) UCHIDA Y.
XX
DR WPI; 1992-253557/31.
DR N-PSDB; Q26711.
XX
PT Human cerebral protein inhibits nerve nutrient activity - for
PT treating and diagnosing Alzheimer's disease
XX
PS Claim 4; Page 2; 20pp; Japanese.

XX
CC The sequence given is a human cerebral protein which inhibits nerve
CC nutrient activity. This protein is a white amorphous powder which
CC has a stable pH rang of 3.0 to 7.7. This new protein is useful in
CC the diagnosis and treatment of Alzheimers disease.
XX
SQ Sequence 68 AA;

Query Match 88.0%; Score 66; DB 13; Length 68;
Best Local Similarity 19.2%; Pred. No. 79;
Matches 5; Conservative 21; Mismatches 0; Indels 0; Gaps 0;

```
Qy       1 CXXCXXXCXXXXXXXXXXCXXXCXXX 26
             |::|:::|::::::::::|:::|:::
Db      27 ctsckksccsccpaecekcakdcvck 52
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